National Standards Commission

Certificate of Approval

No 5/6A/70A

Issued under Regulation 9
of the
National Measurement (Patterns of Measuring Instruments) Regulations

This is to certify that an approval for use for trade has been granted in respect of the

Email E Series Driveway Flowmeters

submitted by Email Electronics
88-94 Canterbury Road
Kilsyth VIC 3175.

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.

J. Birch.

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CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/11/92.
This approval expires in respect of new instruments on 1/11/93.

Instruments purporting to comply with this approval shall be marked NSC No 5/6A/70A and only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the Commission and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with the Commission's Document 106.

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

DESCRIPTIVE ADVICE

Pattern: approved 13/10/87

- Email E series driveway flowmeters.

Technical Schedule No 5/6A/70A describes the pattern.

Variant: approved 13/3/92

1. With a submersible turbine hydraulic system.

Technical Schedule No 5/6A/70A Variation No 1 describes variant 1.

FILING ADVICE

Certificate of Approval No 5/6A/70A dated 29/8/88 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 5/6A/70A dated 15/6/92
Technical Schedule No 5/6A/70A dated 29/8/88 (incl. Tables 1 & 2, and Test Procedure)
Technical Schedule No 5/6A/70A Variation No 1 dated 15/6/92 (incl. Test Procedure)
Figures 1 to 7 dated 29/8/88
Figure 8 dated 15/6/92

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 5/6A/70A

Pattern: Email E Series Driveway Flowmeters.

Submittor: Email Limited
Petroleum Equipment Division
114 Abbotts Road
Dandenong VIC 3175.

1. Description of Pattern

The pattern is the E series driveway flowmeters (Figures 1 and 2) also known as the "Pacesetters" and are identified by the models given in Table 1 for attendant-operated use only.

Instruments identified by the model numbers given in Table 2 may be connected to a Commission-approved console or driveway flowmeter controller for use as a self-serve system.

1.1 Features

The driveway flowmeters, with hydraulics as shown in Figures 3 to 7, comprise:

(i) An Eclipse MVR series electronic price-computing driveway flowmeter indicator, as described in the documentation of NSC approval No S110A.

(ii) A Dresser-Wayne model 2PM6 two-piston positive displacement meter.

(iii) A Dresser-Wayne model 32-44059 combined pump and gas separator on instruments dispensing petrol or diesel at maximum and minimum flow rates of 55 L/min and 15 L/min respectively;

A Dresser-Wayne model 33-44059 combined pump and gas separator on instruments dispensing petrol or diesel at maximum and minimum flow rates of 80 L/min and 15 L/min respectively;

All instruments dispensing diesel incorporate a gas purging system consisting of a gas detector and a combined non-return/shut-off valve located upstream of the meter.

(iv) A gas separator/detector test valve is provided on all instruments and any accumulated gas is exhausted via a float chamber and a vent to atmosphere; provision is made for the valve to be sealed.

(v) Either a non-return valve located upstream of the meter on instruments dispensing petrol, or a flow control valve on instruments incorporating a preset panel or connected to a console with prepay facility;

(vii) Any compatible Commission-approved nozzle.

1.2 Sealing and Verification

The calibration device has provision for sealing and provision is made for a verification mark to be applied.

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1.3 Markings

Instruments are marked with the following data, together in one location:

Manufacturer's name or mark
Serial number
Model number
Year of manufacture
NSC approval number 5/6A/70A
Maximum flow rate ... L/min
Minimum flow rate ... L/min
Type of liquid

TABLE 1

MODEL	[WITH PRESET OR PREPAY]	TYPE	PRODUCT	MAX. FLOW RATE L/min
ECC1	[EDC1]	single	petrol	55
ECC2	[EDC2]	dual	petrol	55
ECC1H	[EDC1H]	single	petrol	80
ECC1D	[EDC1D]	single	diesel	55
ECC1DH	[EDC1DH]	single	diesel	80

Attendant-operated Models Only

TABLE 2

MODEL	[WITH PRESET OR PREPAY]	TYPE	PRODUCT	MAX. FLOW RATE L/Min
ECS1	[EDS1]	single	petrol	55
ECS2	[EDS2]	dual	petrol	55
ECS1H	[EDS1H]	single	petrol	80
ECS1D	[EDS1D]	single	diesel	55
ECS1DH	[EDS1DH]	single	diesel	80

Attendant-operated or Self-serve Models

NATIONAL STANDARDS COMMISSION

TEST PROCEDURE No 5/6A/70A

Instruments should be tested in accordance with the Inspector's Handbook and in conjunction with any tests in the approval documentation for the indicator and console used (where applicable).

The results shall not exceed the maximum permissible errors specified in Document 118, Second Edition, October 1986.

In addition, for self-serve systems, check that when the nozzle is returned to its normal hang-up position, or what appears to be its normal hang-up position, the pump motor stops without resetting the delivery indication to zero and removing the nozzle from its hang-up position shall not cause the next delivery to commence until the previous transaction is completed and the instrument is authorised.

National Standards Commission

TECHNICAL SCHEDULE No 5/6A/70A

VARIATION No 1

Pattern: Email E Series Driveway Flowmeters.

Submittor: Email Electronics
88-94 Canterbury Road
Kilsyth VIC 3175.

1. Description of Variant 1

With a submersible turbine pump hydraulic system (Figure 8) replacing the equivalent components (i.e. motor, pump, gas separator, and associated pipework) in any driveway flowmeter covered by this approval, in which case the model number has a '-D' suffix, e.g. the model ECC1 becomes ECC1-D.

The replacement hydraulic system includes a Red Jacket model P75S3-3 or model P150S3-3 (or Gilbarco model T221X or model T122W) submersible turbine pump with a Red Jacket model 116-030-5PLD (or Gilbarco model OTO4966) leak detector.

More than one driveway flowmeter may be connected to the same submersible turbine pump hydraulic system.

TEST PROCEDURE

Instruments shall be tested in conjunction with any tests specified in the approval documentation for the instrument to which the pattern is connected, as appropriate, and in accordance with any relevant tests specified in the Inspector's Handbook.

The maximum permissible errors applicable are those applicable to the system to which the instrument approved herein is fitted, as stated in the approval documentation for the system.

1. Operation of the leak detector is tested by the following procedure:

Note: This Test should be carried out on initial verification. Thereafter, it need not be done at every verification/certification but should be done periodically at the discretion of the relevant verifying authority.

a) Connect a pressure gauge and valve to the test port of the impact valve under the driveway flowmeter. Ensure that the submerged turbine pump is not turned on during this operation by disabling at the STP control box.

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b) Start the test by closing the test valve. The line pressure should be zero as indicated on the pressure gauge. At the control box, enable the pump and dispense at least 15 L of fuel to remove any air introduced by installing the pressure gauge and valve.

c) Turn off the pump and open the test valve sufficiently so that a steady, unbroken stream of fuel is observed to flow from the test valve. Wait until flow ceases from the valve and the test gauge reads zero. Leave the test valve open.

d) Start the pump by lifting the nozzle at the flowmeter but leaving the nozzle closed. A steady stream of fuel should be observed to flow from the test valve. The pressure on the gauge should not exceed 150 kPa during this step.

Attempt to deliver fuel from the nozzle. A flow rate of less than 11 L/min indicates correct operation of the leak detector.

e) Close the test valve and nozzle with the pump still running. A rise in pressure on the test gauge should be noted after not more than 10 seconds.

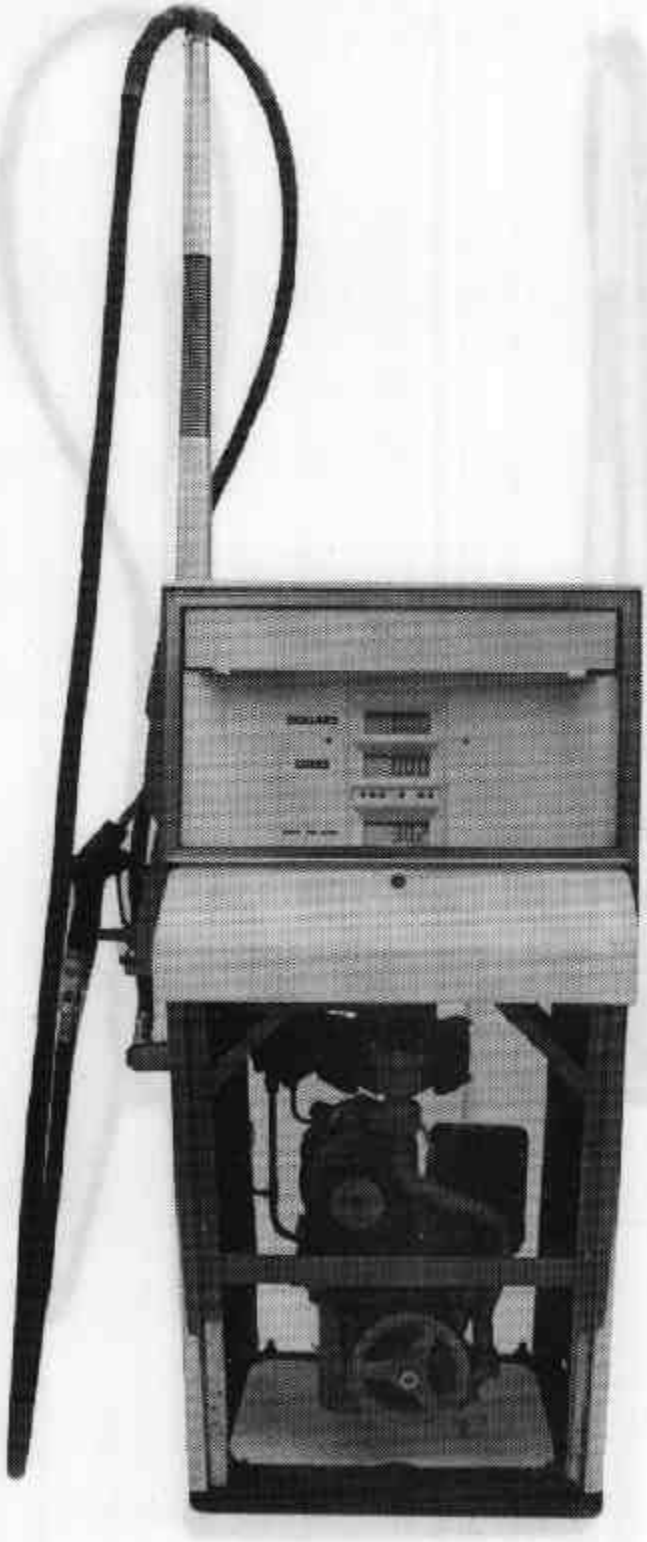
f) Disable the pump at the control box. Remove the test fixture and replace the plug in the test port. Enable the pump, and dispense at least 15 L of fuel from the flowmeter to remove any air introduced into the system.

2. The minimum flow rate test is performed by simultaneously running either all hoses on all driveway flowmeters connected to a particular submerged turbine pump (where the number of hoses is 6 or less) or by simultaneously running between 2/3 and 3/4 of all such hoses (where the number of hoses is more than 6). For the purpose of this test, where two or more pumps are connected in parallel, they shall be considered as one pump. Check that the lowest flow rate is not less than 15 L/min.

Note: This Test should be carried out on initial verification. Thereafter, it need not be done at every verification/certification but should be done periodically at the discretion of the relevant verifying authority.

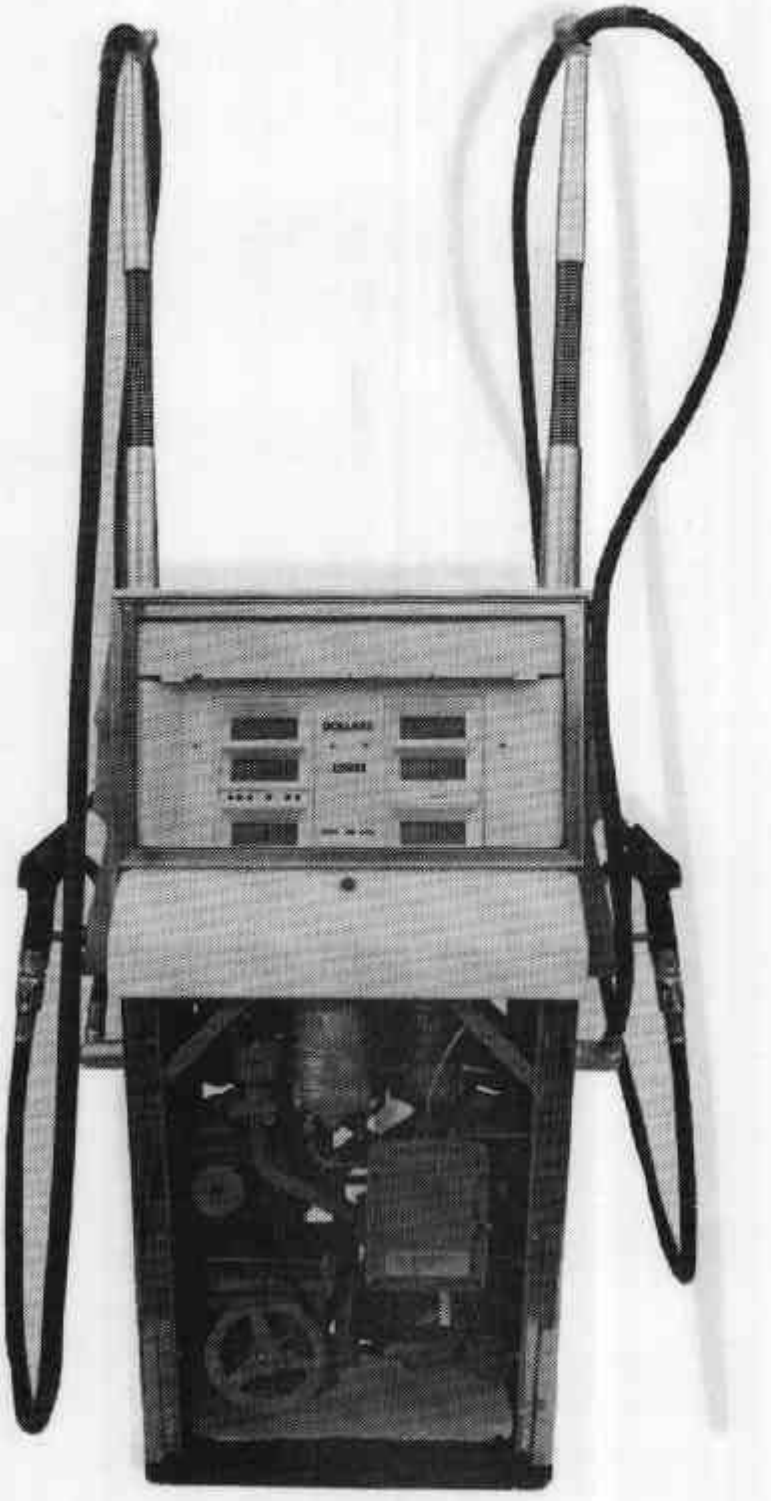
3. For driveway flowmeters connected to a remote authorisation device, begin a delivery from any flowmeter. While this delivery is still in progress, attempt to make a delivery from a 3rd flowmeter connected to the same submerged turbine pump WITHOUT this flowmeter first being authorised; the 3rd delivery should not be possible.

FIGURE 5/6A/70 - 1



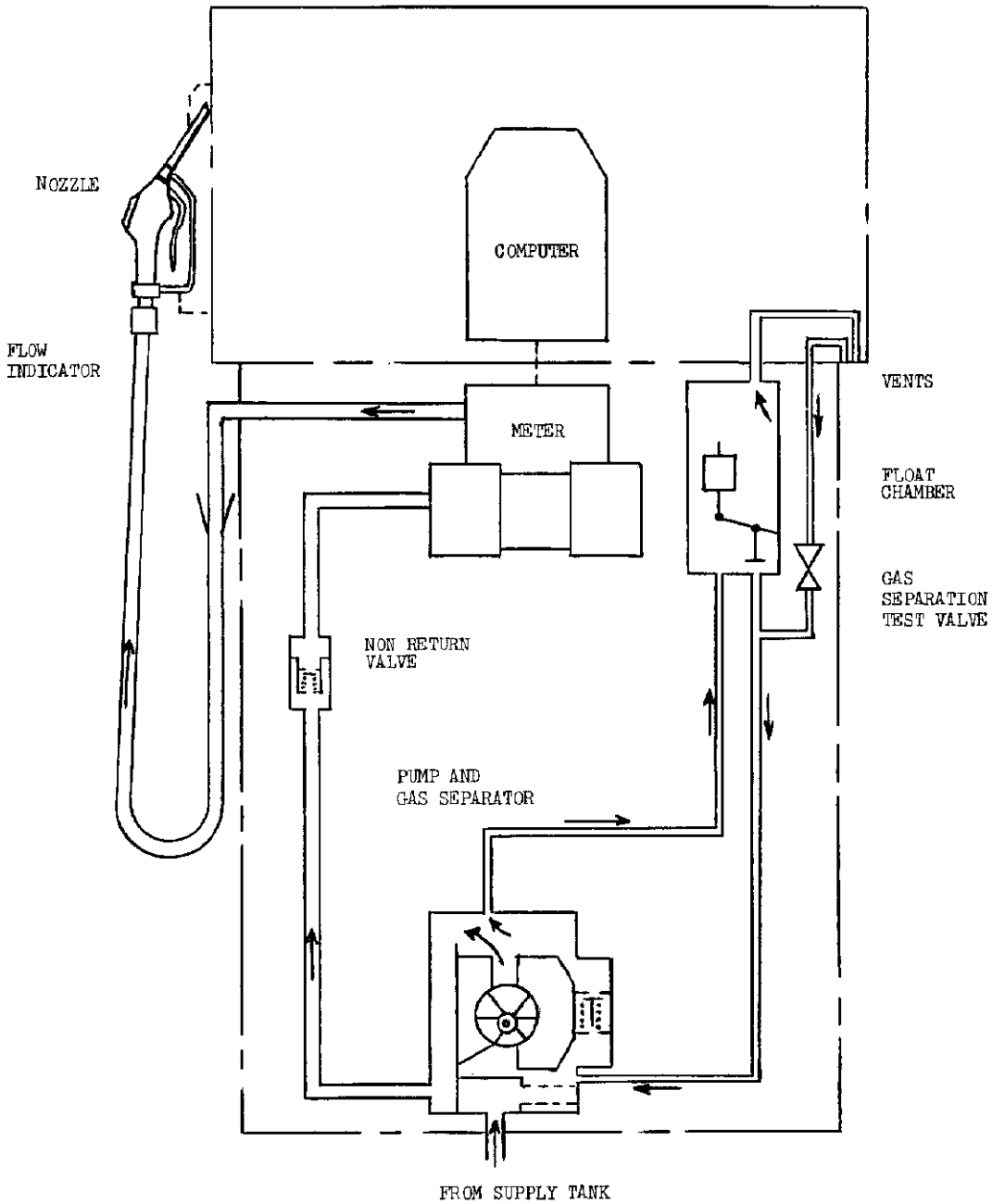
Email Model ECC1

FIGURE 5/6A/70A - 2



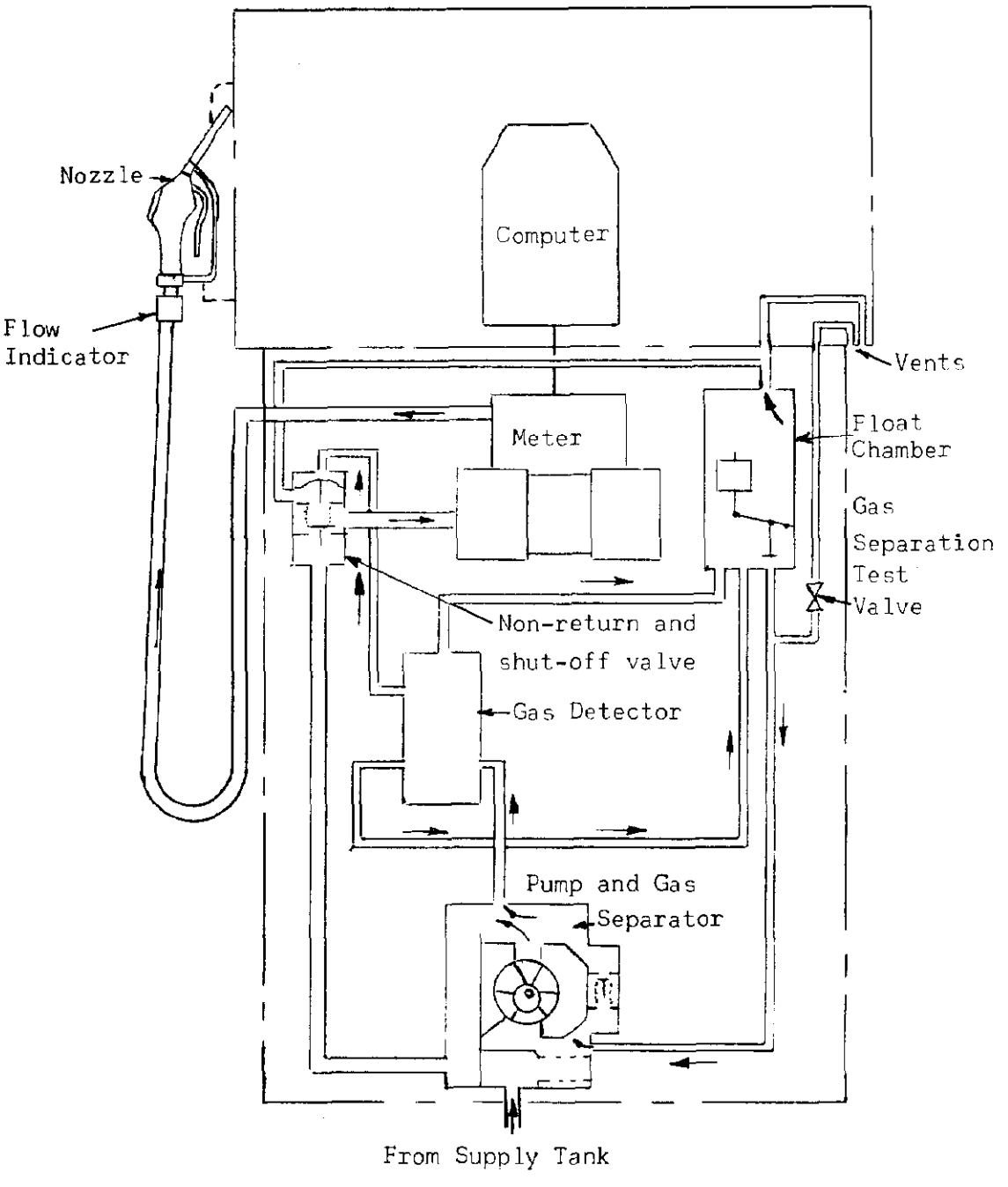
Emoll Model ECC2

FIGURE 5/6A/70A - 3



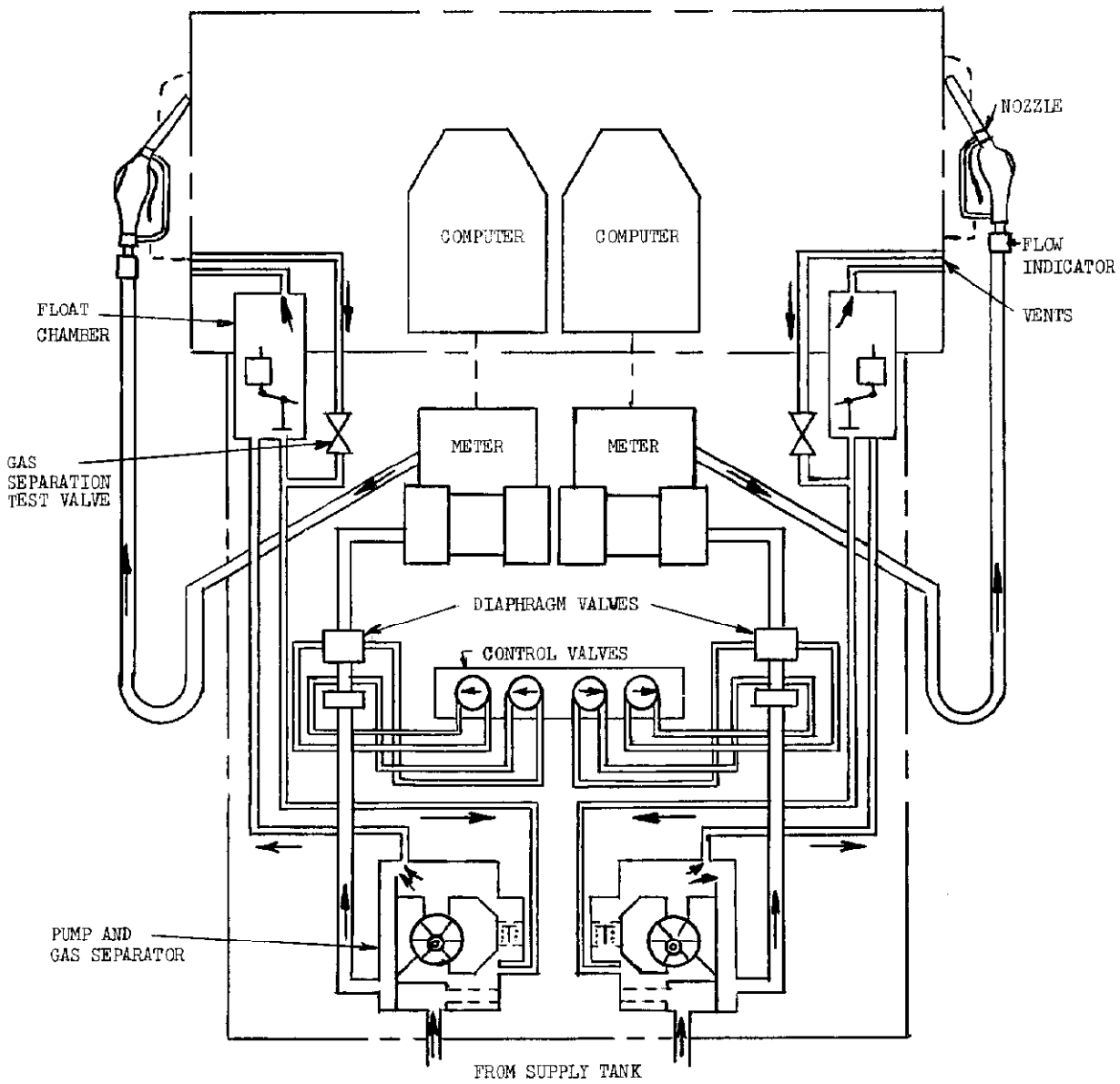
Hydraulic Diagram Model ECC1

FIGURE 5/6A/70A - 4



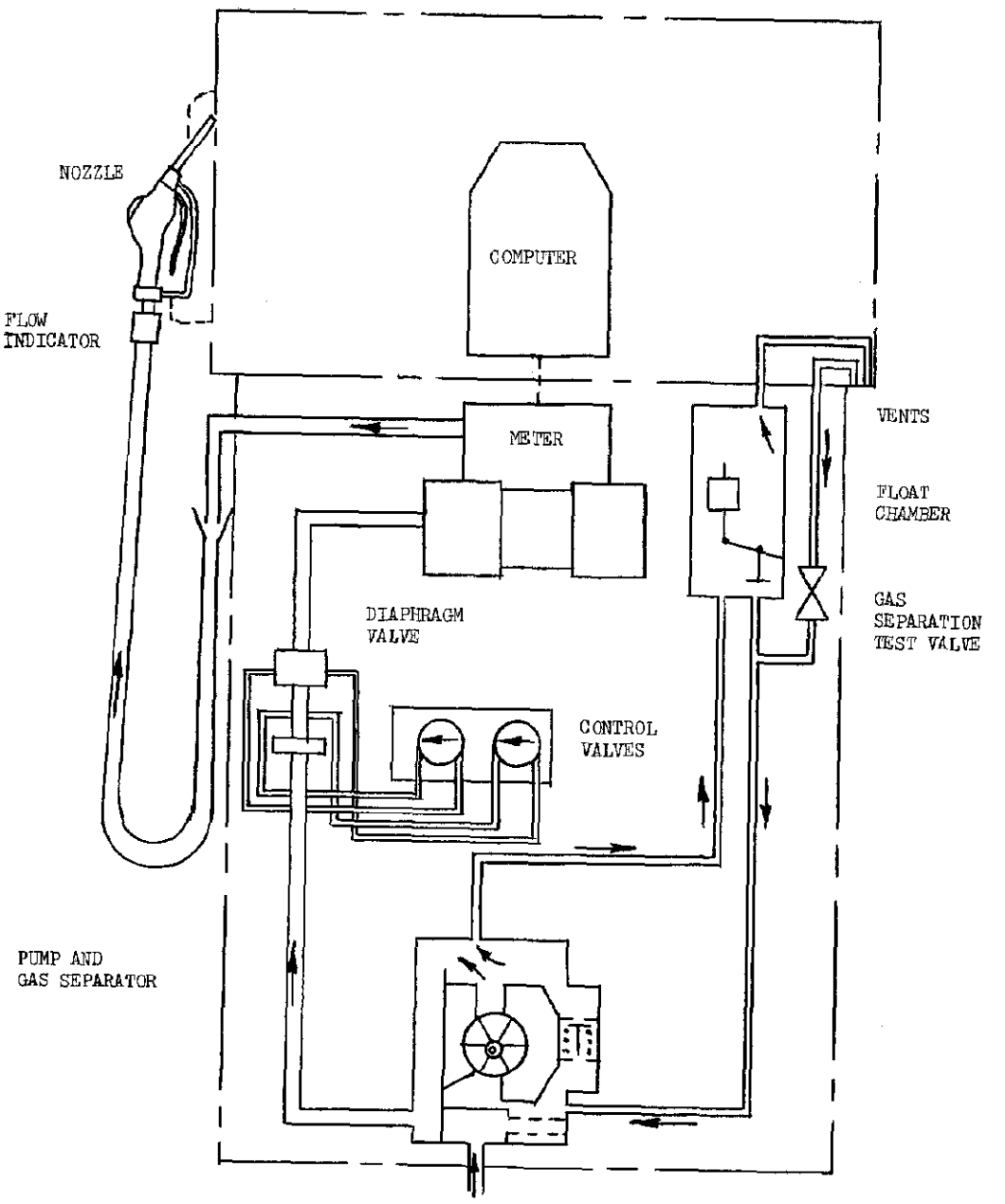
Hydraulic Diagram Models ECC1D, ECC1H and ECC1DH

FIGURE 5/6A/70A - 5



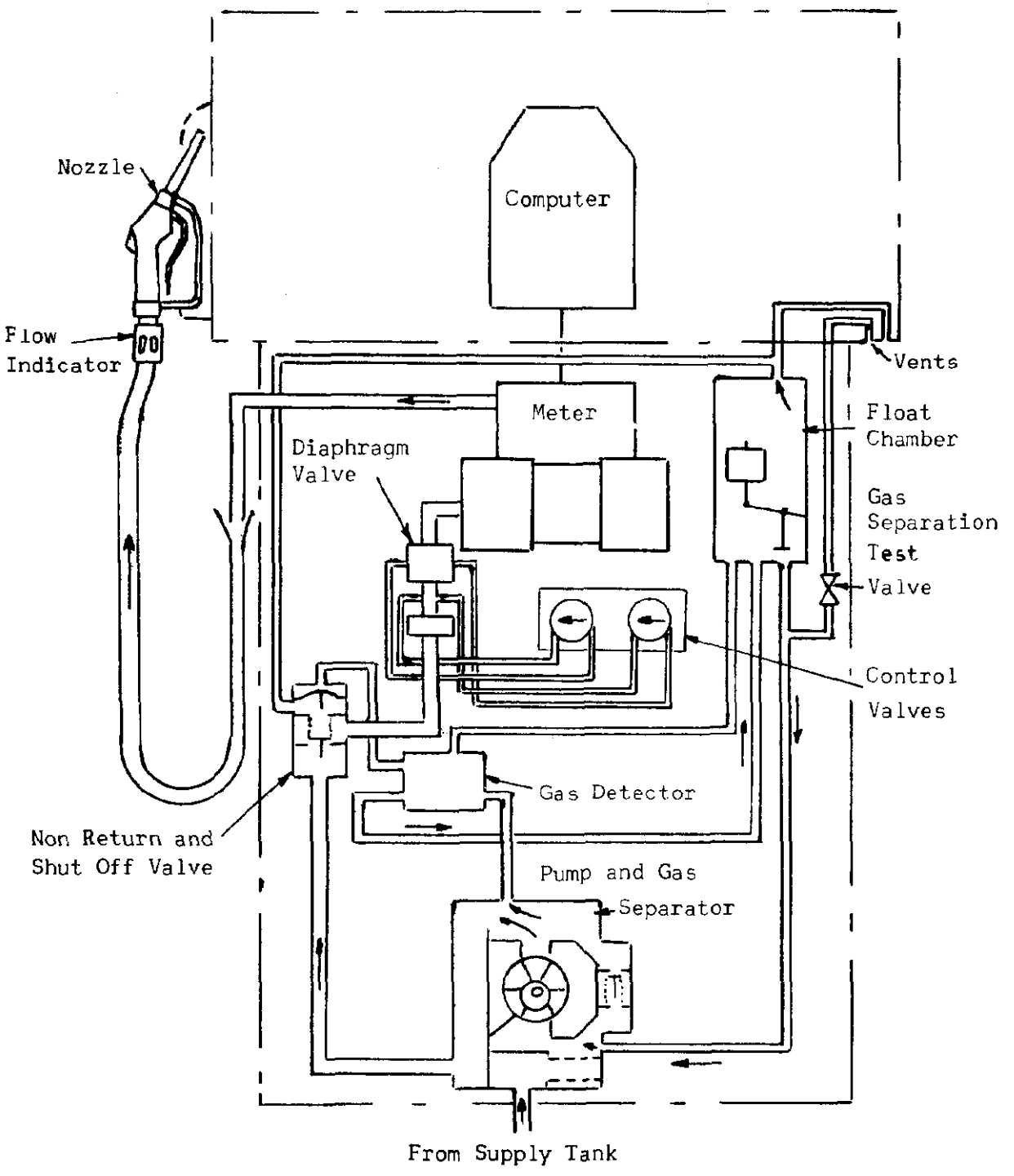
Hydraulic Diagram Model EDC2

FIGURE 5/6A/70A - 6



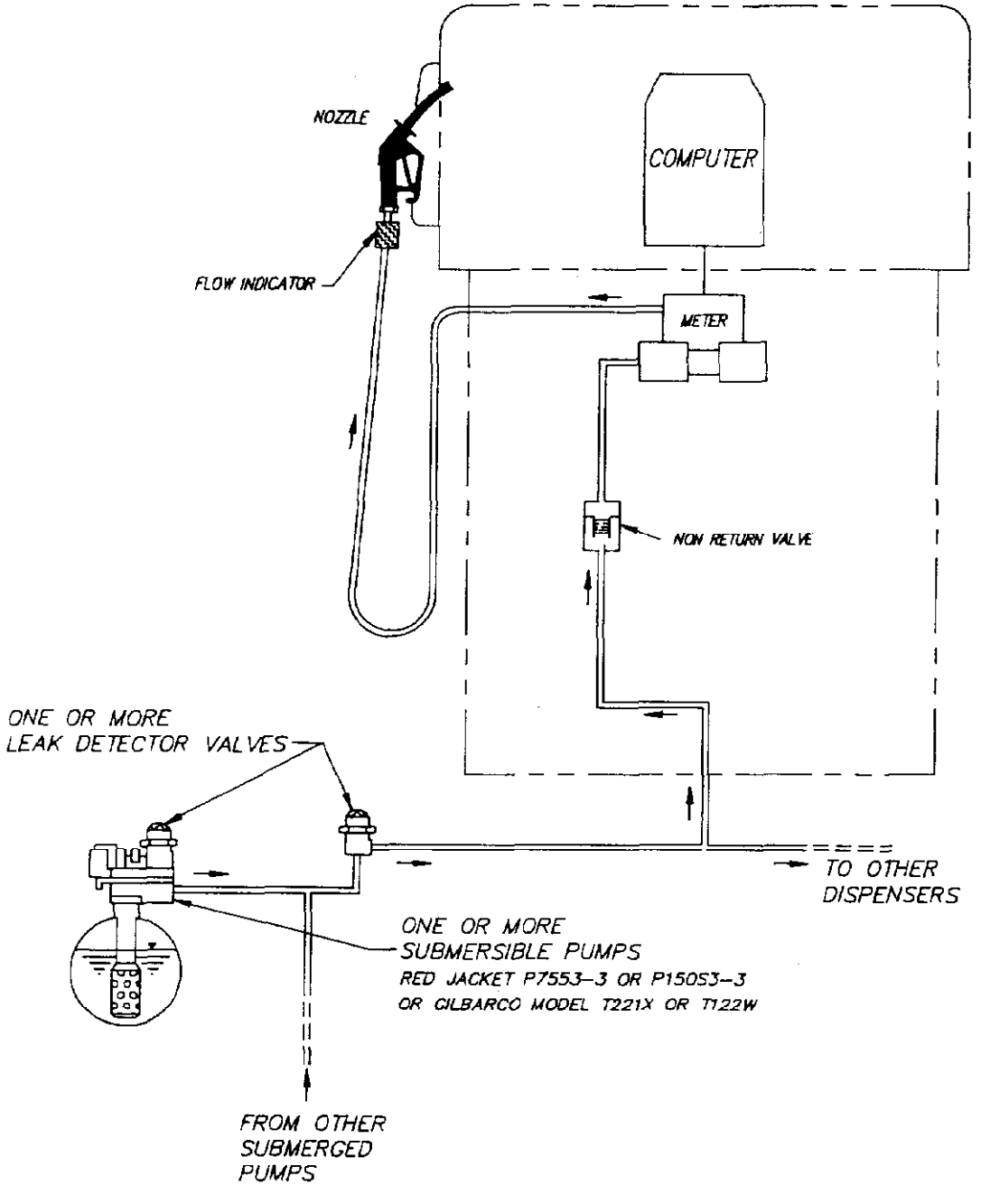
Hydraulic Diagram Model EDC1

FIGURE 5/6A/70A - 7



Hydraulic Diagram Models EDC1D, EDC1H and EDC1DH

FIGURE 5/6A/70A - 8



Typical System With a Submersible Turbine Pump